

IN THE CLAIMS

What is claimed is:

1. (Currently amended) A catheter for delivering a contraceptive device within a fallopian tube, the catheter comprising:
 - an elongate tubular catheter body having a proximal portion adjacent a proximal end, a distal portion adjacent a distal end, and at least one lumen; and
 - at least one coil disposed along the catheter body nearer the distal end than the proximal end and encircling the lumen, wherein the distal portion has varying degrees of flexibility determined by constraining the coil and is adapted to couple to a contraceptive device.
2. (Original) A catheter as in claim 1, wherein the distal portion of the catheter body is more flexible towards the distal end of the catheter body than the proximal end.
3. (Original) A catheter as in claim 2, wherein the distal portion of the catheter body comprises multiple layers, and the at least one coil comprises one of the layers.
4. (Original) A catheter as in claim 3, wherein the multiple layers comprise:
 - an inner layer;
 - a middle layer; and
 - an outer layer.
5. (Original) A catheter as in claim 4, wherein the middle layer comprises the coil.
6. (Currently amended) A catheter as in claim 5, wherein the coil comprises at least one material selected from the group consisting of ~~Nitinol®~~ nickel-titanium alloy, stainless steel, titanium and a polymer.
7. (Currently amended) A catheter as in claim 4, wherein the inner layer comprises at least one material selected from the group consisting of ~~Teflon®~~ polytetrafluoroethylene, etched polytetrafluoroethylene and a fluoropolymer.

8. (Original) A catheter as in claim 4, wherein the outer layer comprises at least one polyurethane material.
9. (Original) A catheter as in claim 8, wherein the polyurethane material comprises Carbothane.
10. (Original) A catheter as in claim 2, wherein the distal portion comprises:
a first segment; and
at least a second segment distal to the first segment,
wherein the second segment is more flexible than the first segment.
11. (Original) A catheter as in claim 10, further comprising a third segment distal to the second segment, wherein the third segment is more flexible than the second segment.
12. (Original) A catheter as in claim 11, wherein the distal portion comprises:
an inner layer;
a middle layer; and
an outer layer.
13. (Original) A catheter as in claim 12, wherein the middle layer comprises the coil and the outer layer comprises at least one polyurethane material.
14. (Original) A catheter as in claim 13, wherein the at least one polyurethane material comprises at least two polyurethane materials for conferring varying levels of flexibility to the distal portion.
15. (Original) A catheter as in claim 13, wherein the at least one polyurethane material has an increasing amount of flexibility from a proximal end of the distal portion to a distal end of the distal portion.
16. (Original) A catheter as in claim 1, wherein a pitch of the at least one coil is approximately 0.030 cm.

17. (Currently amended) A catheter as in claim 1, wherein the distal portion of the catheter body has a length of between ~~about~~ 1.2 cm and ~~about~~ 2.0 cm.

18. (Currently amended) A catheter as in claim 17, wherein the at least one coil has a length of between ~~about~~ 1.6 cm and ~~about~~ 2.4 cm.

19. (Original) A catheter as in claim 18, wherein the at least one coil extends through at least part of the distal portion of the catheter body and at least part of the proximal portion of the catheter body.

20. (Original) A catheter as in claim 19, wherein a distal end of the proximal portion of the catheter body overlaps a proximal end of the distal portion of the catheter body.

21. (Currently amended) A catheter as in claim 18, wherein the length of the catheter body is between ~~about~~ 43 cm and ~~about~~ 50 cm.

22. (Original) A catheter as in claim 1, wherein an inner diameter of the proximal portion of the catheter body is smaller near the distal end of the catheter body than near the proximal end.

23. (Original) A catheter as in claim 1, wherein the proximal portion of the catheter body comprises at least one polyether block amide.

24. (Original) A catheter as in claim 1, wherein the proximal portion of the catheter body includes at least one visualization marker near the distal portion for enhancing visualization of a proximal-most end of the distal portion.

25. (Original) A catheter as in claim 24, wherein the visualization marker comprises at least one radiopaque material.

26. (Currently amended) A catheter for delivering a contraceptive device within a fallopian tube, the catheter comprising:

an elongate tubular catheter body having a proximal portion adjacent a proximal end, a distal portion adjacent a distal end, and at least one lumen, wherein the distal portion is more flexible towards the distal end than towards the proximal end; and

at least one coil disposed along the catheter body nearer the distal end than the proximal end and encircling the lumen, and wherein the distal portion has varying degrees of flexibility determined by constraining the coil and is adapted to couple to a contraceptive device.

27. (Currently amended) A catheter for delivering a contraceptive device within a fallopian tube, the catheter comprising:

an elongate tubular catheter body having a proximal portion adjacent a proximal end, a distal portion of between about 1.2 cm and about 2.0 cm adjacent a distal end, and at least one lumen, wherein the distal portion is more flexible towards the distal end than towards the proximal end; and

at least one coil disposed along the catheter body nearer the distal end than the proximal end and encircling the lumen, and wherein the distal portion has varying degrees of flexibility determined by constraining the coil and is adapted to couple to a contraceptive device.

28. (Currently amended) A system for delivering a contraceptive device within a fallopian tube, the system comprising:

a catheter comprising:

an elongate tubular catheter body having a proximal portion adjacent a proximal end, a distal portion adjacent a distal end, and

at least one lumen; and at least one coil disposed along the catheter body nearer the distal end than the proximal end and encircling the lumen, wherein the distal portion has varying degrees of flexibility determined by constraining the coil and is adapted to couple to a contraceptive device;

a contraceptive device releasably disposed at least partially within the lumen of the catheter near the distal portion; and

a deployment member in detachable engagement with the contraceptive device for deploying the contraceptive device from the catheter.

29. (Original) A system as in claim 28, wherein the distal portion of the catheter body is more

flexible towards the distal end of the catheter body than towards the proximal end.

30. (Original) A system as in claim 29, wherein the distal portion of the catheter body comprises multiple layers, and the at least one coil comprises one of the layers.

31. (Original) A system as in claim 30, wherein the multiple layers comprise:

- an inner layer;
- a middle layer; and
- an outer layer.

32. (Original) A system as in claim 31, wherein the middle layer comprises the coil.

33. (Currently amended) A system as in claim 32, wherein the coil comprises at least one material selected from the group consisting of ~~Nitinol®~~ nickel-titanium alloy, stainless steel, titanium and a polymer.

34. (Currently amended) A system as in claim 31, wherein the inner layer comprises at least one material selected from the group consisting of ~~Teflon®~~ polytetrafluoroethylene, etched polytetrafluoroethylene and a fluoropolymer.

35. (Original) A system as in claim 31, wherein the outer layer comprises at least one polyurethane material.

36. (Original) A system as in claim 35, wherein the polyurethane material comprises Carbothane.

37. (Original) A system as in claim 29, wherein the distal portion comprises:

- a first segment; and
 - at least a second segment distal to the first segment,
- wherein the second segment is more flexible than the first segment.

38. (Original) A system as in claim 37, further comprising a third segment distal to the second

segment, wherein the third segment is more flexible than the second segment.

39. (Currently amended) A system as in claim [[38]] 29, wherein the distal portion comprises:

an inner layer;
a middle layer; and
an outer layer.

40. (Original) A system as in claim 39, wherein the middle layer comprises the coil and the outer layer comprises at least one polyurethane material.

41. (Original) A system as in claim 40, wherein the at least one polyurethane material comprises at least two polyurethane materials for conferring varying levels of flexibility to the distal portion.

42. (Original) A system as in claim 40, wherein the at least one polyurethane material has an increasing amount of flexibility from a proximal end of the distal portion to the distal end of the distal portion.

43. (Original) A system as in claim 28, wherein the proximal portion of the catheter body includes at least one visualization marker near the distal portion for enhancing visualization of a proximal-most end of the distal portion.

44. (Original) A system as in claim 43, wherein the visualization marker comprises at least one radiopaque material.

45. (Currently amended) A method for making a catheter for delivery of a contraceptive device within a fallopian tube, the method comprising:

forming a distal portion of the catheter, comprising:
positioning a helical coil around an inner tubular member; and

placing at least one outer layer of material over the helical coil and the inner tubular member, wherein the distal portion has varying degrees of flexibility determined by constraining the helical coil and is adapted to couple to a contraceptive device; and

coupling a proximal portion of the catheter with the distal portion of the catheter.

46. (Currently amended) A method as in claim 45, wherein the inner tubular member comprises a metal selected from the group consisting of ~~Teflon~~® polytetrafluoroethylene, etched polytetrafluoroethylene and a fluoropolymer.

47. (Currently amended) A method as in claim 45, wherein the helical coil comprises a metal selected from the group consisting of ~~Nitinol~~® nickel-titanium alloy, stainless steel, titanium and a polymer.

48. (Original) A method as in claim 45, wherein the outer material comprises at least one polyurethane material.

49. (Original) A method as in claim 45, wherein coupling comprises overlapping a distal end of the proximal portion of the catheter with a proximal end of the distal portion of the catheter.

50. (Original) A method as in claim 49, wherein coupling further comprises heat welding the proximal portion to the distal portion.

51. (Original) A method as in claim 45, further comprising coupling a first segment of the outer material with at least a second segment of the outer material.

52. (Original) A method as in claim 51, further comprising coupling a third segment of the outer material with the second segment.

53. (Original) A method as in claim 53, wherein the first segment of the outer material has greater flexibility than the second segment, the second segment has greater flexibility than the third segment, and the third segment is coupled with the proximal portion of the catheter.

54. (Currently amended) A method as in claim 46, wherein the distal portion of the catheter is between about 1.2 cm and about 2.0 cm, the coil is between about 1.6 cm and about 2.4 cm, and the catheter is between about 43 cm and about 50 cm in length.